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A light ball of pith or cork or a ping-pong ball covered with varnish and rolled in fine sawdust is placed in a round pasteboard mailing tube and thrown by a quick motion of the tube as indicated in the accompanying sketch. The ball rolls along one side of the tube and is spinning rapidly when it leaves the end of the tube. The result is that the ball curves sharply upwards as it flies through the air, in some cases describing the cusped curve which is mentioned by Professor J. J. Thomson.

W. S. FRANKLIN

#### SEED DISTRIBUTION BY SURFACE TENSION

IN response to Mr. Becker's suggestion in SCIENCE, November 17, I may record what I have been accustomed to state in public concerning the distribution of seeds of water lilies (*Nymphaea* (L.) Sm.). Indeed, I was surprised to find that the observation had not already been published.

The fruits of *Nymphaeas* mature under water, and burst irregularly, discharging the seeds a few inches or feet below the water surface. But the seeds rise at once and float by reason of a buoyant aril. The aril forms a kind of double-walled sac, open at one end, and enclosing the seed. It is mucilaginous in character and carries little bubbles in and upon it. I have often watched a mass of such seeds of *N. odorata*, *N. caerulea* or *N. lotus* upon a water surface. They separate from one another spontaneously and distribute themselves over the tank or pond in all directions, even though both water and atmosphere be perfectly still. It is wonderful how they steer about among floating leaves, and travel to the confines of their basin. Each one seems to repel all others. I have always believed this was due to surface tension or diffusion effects, but have never undertaken to prove the point or to determine the substances causing it. After some hours, the aril splits, the pieces curl up, and the heavy seed is released and sinks to the bottom of the pond.

HENRY S. CONARD

GRINNELL COLLEGE,  
GRINNELL, IOWA,  
November 20, 1911

#### MODELS OF VORTICELLA AND CYCLOPS

TO THE EDITOR OF SCIENCE: The Department of Animal Biology of the University of Minnesota recently received a model of a small colony of *Vorticella* and a model of *Cyclops* that deserve public notice.

These models are advertised in reputable catalogs and the stands bear printed labels that announce:

Awarded Gold Medal, Franco-British Exhibition,  
1908

Biological Models. Made by Smedley, London, S. E.  
Sole Agents, Gallenkamp & Co., 19 and 21 Sun St.,  
Finsbury Square, London, E. C.

The models are made of a soft paraffin and are, without qualification, the poorest models that I have ever known to be advertised and for sale. They are absolutely devoid of any scientific value and are grossly untrue to even the most evident structural features. The appendages of the *Cyclops* (sp.?) are uniramous and no attempt has been made to indicate the relative lengths of the joints. Even the number of joints differs in the members of a pair. There is no attempt to represent the vestibule or "disk" of the *Vorticella* and the cilia are represented by feathers pressed into the paraffin. The paraffin is very slovenly put over wires and everything about the models indicates very crude workmanship and lack of knowledge. And such things are awarded gold medals!

This is submitted for the protection of those disposed to use models in the class room and the laboratory.

HENRY F. NACHTRIEB

#### SIPHON SPRINGS AND SINK HOLES

*Siphon Springs*.—Intermittent springs as the result of the combination of a reservoir and siphon have long been favorite illustrations in the standard text-books of physics to show the practical application of the siphon. The familiar figure shows a small hill with a large cavern discharging its water by means of a siphon. Such a cavern emptying into a valley in this way must be extremely rare in